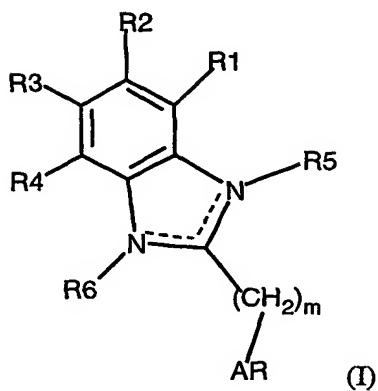


What is claimed is:

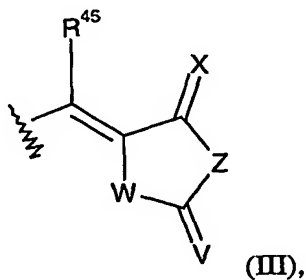
1. A compound represented by the following Formula (I):



wherein:

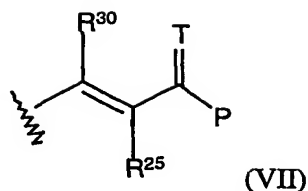
the B ring has one double bond where indicated by the broken lines, provided that R<sup>5</sup> is absent when the nitrogen attached thereto has a double bond and provided that R<sup>6</sup> is absent when the nitrogen attached thereto has a double bond;

R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are each independently selected from hydrogen, -(CH<sub>2</sub>)<sub>p</sub>OR<sup>10</sup>, -C(O)OR<sup>10</sup>, formyl, nitro, cyano, halogen, aryl, substituted aryl, substituted alkyl, -S(O)<sub>n</sub>R<sup>10</sup>, cycloalkyl, -NR<sup>11</sup>R<sup>12</sup>, protected -OH, -CONR<sup>11</sup>R<sup>12</sup>, phosphonic acid, sulfonic acid, phosphinic acid, -SO<sub>2</sub>NR<sup>11</sup>R<sup>12</sup>, a heterocyclic methylene substituent as represented by Formula (III),



and

a substituent as represented by Formula (VII),



where,

p is 0-6,

n is 0-2,

W and Z are each independently selected from C, O, S and NR<sup>16</sup>, where R<sup>16</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

V and X are each independently selected from O, S and NR<sup>16</sup>, where R<sup>16</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

R<sup>10</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

R<sup>11</sup> and R<sup>12</sup> are each independently selected from hydrogen, alkyl, substituted alkyl, C<sub>3-6</sub>cycloalkyl, and aryl,  
or R<sup>11</sup> and R<sup>12</sup> taken together with the nitrogen to which they are attached represent a 5 to 6 member saturated ring containing up to one other heteroatom selected from oxygen and nitrogen,

T is absent or selected from O, S and NR<sup>16</sup>, where R<sup>16</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

P is selected from OR<sup>10</sup>, SR<sup>10</sup>, NR<sup>11</sup>R<sup>12</sup>, and R<sup>10</sup>, where R<sup>10</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

R<sup>25</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

R<sup>30</sup> is selected from: hydrogen, alkyl, halogen, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl, and

R<sup>45</sup> is selected from: hydrogen, alkyl, halogen, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl;

R<sup>5</sup> is absent when the nitrogen attached thereto has a double bond or selected from the group consisting of: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl;

$R^6$  is absent when the nitrogen attached thereto has a double bond or selected from the group consisting of: hydrogen, alkyl, cycloalkyl,  $C_1$ - $C_{12}$ aryl, substituted alkyl, substituted cycloalkyl and substituted  $C_1$ - $C_{12}$ aryl;

m is 0-6; and

AR is a cyclic or polycyclic aromatic ring containing from 3 to 16 carbon atoms, optionally containing one or more heteroatoms, provided that when the number of carbon atoms is 3 the aromatic ring contains at least two heteroatoms and when the number of carbon atoms is 4 the aromatic ring contains at least one heteroatom, optionally substituted with one or more substituents selected from the group consisting of: alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, aryloxy, hydroxy, alkoxy, acyloxy,  $-NR^{13}R^{14}$ , N-acylamino, N-sulfonylamino, nitro, cyano, halogen,  $-C(O)OR^{10}$ ,  $-C(O)NR^{13}R^{14}$ ,  $-S(O)_2NR^{13}R^{14}$ ,  $-S(O)_nR^{10}$ , protected  $-OH$ , and alkyl substituted with one or more substituents selected from the group consisting of: alkoxy, acyloxy, aryl, substituted aryl, amino, N-acylamino, oxo, hydroxy, cycloalkyl, substituted cycloalkyl,  $-C(O)OR^{10}$ ,  $-S(O)_2NR^{13}R^{14}$ ,  $-S(O)_nR^{10}$ , aryloxy, nitro, cyano, halogen, and protected  $-OH$ ,

where

n is 0 to 2;

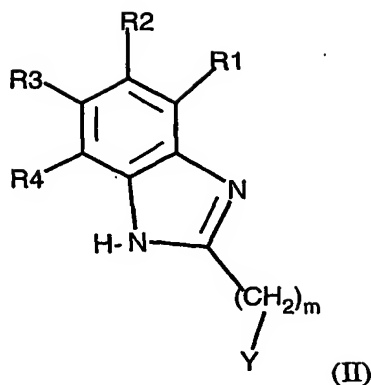
$R^{10}$  is selected from the group consisting of: hydrogen, alkyl, cycloalkyl,  $C_1$ - $C_{12}$ aryl, substituted alkyl, substituted cycloalkyl and substituted  $C_1$ - $C_{12}$ aryl, and

$R^{12}$  and  $R^{13}$  are independently selected from the group consisting of: hydrogen, cycloalkyl,  $C_1$ - $C_{12}$ aryl, substituted cycloalkyl, substituted  $C_1$ - $C_{12}$ aryl, alkyl or alkyl substituted with one or more substituents selected from the group consisting of: alkoxy, acyloxy, aryloxy,  $-NR^{10}R^{10}$ , N-acylamino, oxo, hydroxy,  $-C(O)OR^{10}$ ,  $-S(O)_nR^{10}$ ,  $-C(O)NR^{11}R^{10}$ ,  $-S(O)_2NR^{10}R^{10}$ , nitro, cyano, cycloalkyl, substituted cycloalkyl, halogen,  $C_1$ - $C_{12}$ aryl, substituted  $C_1$ - $C_{12}$ aryl, and protected  $-OH$ ,

where n and  $R^{10}$  are as described above;

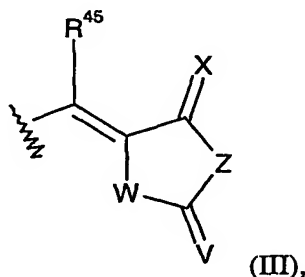
and pharmaceutically acceptable salts, hydrates, solvates and esters thereof.

2. A compound of claim 1 represented by the following Formula (II):



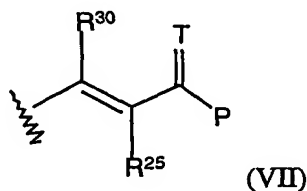
wherein:

$R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$  are each independently selected from hydrogen,  $-(CH_2)_pOR^{10}$ ,  $-C(O)OR^{10}$ , formyl, nitro, cyano, halogen, aryl, substituted aryl, substituted alkyl,  $-S(O)_nR^{10}$ , cycloalkyl,  $-NR^{11}R^{12}$ , protected  $-OH$ ,  $-CONR^{11}R^{12}$ , phosphonic acid, sulfonic acid, phosphinic acid,  $-SO_2NR^{11}R^{12}$ , a heterocyclic methylene substituent as represented by Formula (III),



and

a substituent as represented by Formula (VII),



where,

$p$  is 0-6,

$n$  is 0-2,

$W$  and  $Z$  are each independently selected from C, O, S and  $NR^{16}$ , where  $R^{16}$  is selected from: hydrogen, alkyl, cycloalkyl,  $C_1$ - $C_{12}$ aryl, substituted alkyl, substituted cycloalkyl and substituted  $C_1$ - $C_{12}$ aryl,

V and X are each independently selected from O, S and NR<sup>16</sup>, where R<sup>16</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

R<sup>10</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

R<sup>11</sup> and R<sup>12</sup> are each independently selected from hydrogen, alkyl, substituted alkyl, C<sub>3-6</sub>cycloalkyl, and aryl,  
or R<sup>11</sup> and R<sup>12</sup> taken together with the nitrogen to which they are attached represent a 5 to 6 member saturated ring containing up to one other heteroatom selected from oxygen and nitrogen,

T is absent or selected from O, S and NR<sup>16</sup>, where R<sup>16</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

P is selected from OR<sup>10</sup>, SR<sup>10</sup>, NR<sup>11</sup>R<sup>12</sup>, and R<sup>10</sup>, where R<sup>10</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

R<sup>25</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl,

R<sup>30</sup> is selected from: hydrogen, alkyl, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl, and

R<sup>45</sup> is selected from: hydrogen, alkyl, halogen, cycloalkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted alkyl, substituted cycloalkyl and substituted C<sub>1</sub>-C<sub>12</sub>aryl;

m is 0-6; and

Y is a cyclic or polycyclic aromatic ring containing from 4 to 14 carbon atoms, optionally containing from one to three heteroatoms, and optionally substituted with one or more substituents selected from the group consisting of: alkyl, substituted alkyl, C<sub>1</sub>-C<sub>12</sub>aryl, substituted cycloalkyl, substituted C<sub>1</sub>-C<sub>12</sub>aryl, hydroxy, aryloxy, alkoxy, cycloalkyl, nitro, cyano, halogen and protected -OH;

and pharmaceutically acceptable salts, hydrates, solvates and esters thereof.

3. A compound of claim 1 selected from:

5-{2-[6-(3,4-Dichloro-phenyl)-pyridin-2-yl]-1H-benzoimidazol-5-ylmethylene}-2-thioxo-thiazolidin-4-one;

5-{2-[6-(3,4-Dimethyl-phenyl)-pyridin-2-yl]-1H-benzoimidazol-5-ylmethylene}-2-thioxo-thiazolidin-4-one;  
(E)-3-{2-[6-(4-*tert*-Butyl-phenyl)-pyridin-2-yl]-1H-benzoimidazol-5-yl}-2-methyl-acrylic acid;  
5-{2-[5-(3,4-Dimethyl-phenyl)-thiophen-2-yl]-1H-benzoimidazol-5-ylmethylene}-2-thioxo-thiazolidin-4-one;  
5-{2-[4-(3,4-Dimethyl-phenyl)-thiophen-2-yl]-1H-benzoimidazol-5-ylmethylene}-2-thioxo-thiazolidin-4-one;  
5-{2-[5-(4-*tert*-Butyl-phenyl)-furan-2-yl]-1H-benzoimidazol-5-ylmethylene}-2-thioxo-thiazolidin-4-one;  
5-[2-(4'-*tert*-Butyl-biphenyl-3yl)-1H-benzoimidazol-5-ylmethylene]-2-thioxo-thiazolidin-4-one; and  
5-[2-(4'-*tert*-Butyl-2-hydroxy-biphenyl-3yl)-1H-benzoimidazol-5-ylmethylene]-2-thioxo-thiazolidin-4-one;  
and pharmaceutically acceptable salts, hydrates, solvates and esters thereof.

4. A method of treating of thrombocytopenia in a mammal, including a human, in need thereof which comprises administering to such mammal a therapeutically effective amount of a compound of Formula (I), as described in claim 1.
5. A method as claimed in claim 4, wherein the mammal is a human.
6. The method of claim 5 wherein the compound is selected from the compounds listed in Claim 3.
7. A method of enhancing platelet production in a mammal, including a human, in need thereof which comprises administering to such mammal a therapeutically effective amount of a compound of Claim 1.
8. A method as claimed in claim 7, wherein the mammal is a human.
9. The method of claim 8 wherein the compound is selected from the compounds listed in Claim 3.
10. A pharmaceutical composition for use in enhancing platelet production which comprises a compound of Claim 1 and a pharmaceutically acceptable carrier.

11. Use of a compound of Formula (I), as described in claim 1, in the manufacture of a medicament for use in treating of thrombocytopenia.
12. The method of claim 4 wherein the compound is administered orally.
13. The method of claim 4 wherein the compound is administered parenterally.
14. A method of agonizing the TPO receptor in a subject which comprises administering an effective amount of a compound of Formula (I), as described in claim 1.
15. A process for preparing a pharmaceutical composition containing a pharmaceutically acceptable carrier or diluent and an effective amount of a compound of the Formula (I) as described in claim 1 and pharmaceutically acceptable salts, hydrates, solvates and esters thereof which process comprises bringing the compound of the Formula (I) into association with the pharmaceutically acceptable carrier or diluent.
16. A method of Claim 4 further comprising co-administering a therapeutically effective amount of an agent selected from the group consisting of: a colony stimulating factor, cytokine, chemokine, interleukin or cytokine receptor agonist or antagonists, soluble receptors, receptor agonists or antagonist antibodies, or small molecules or peptides that act by the same mechanisms one or more of said agents.
17. The method of Claim 16 wherein the agent is selected from the group consisting of: G-CSF, GM-CSF, TPO, M-CSF, EPO, Gro-beta, IL-11, SCF, FLT3 ligand, LIF, IL-3, IL-6, IL-1, Progenipoiectin, NESP, SD-01, IL-8, or IL-5 or a biologically active derivative of any of said agents.
18. A pharmaceutical composition of Claim 10 further comprising co-administering a therapeutically effective amount of an agent selected from the group consisting of: a colony stimulating factor, cytokine, chemokine, interleukin or cytokine receptor agonist.
19. The composition of Claim 18 wherein the agent is selected from the group consisting of: G-CSF, GM-CSF, TPO, M-CSF, EPO, Gro-beta, IL-11, SCF, FLT3 Ligand, LIF, IL-3, IL-6, IL-1, or IL-5 or a biologically active derivative of any of said agents.

20. A method for enhancing platelet production obtained from a donor which comprises administering to such donor a therapeutically effective amount of a compound of Claim 1 prior to platelet pheresis, blood donation or platelet donation.
21. A method for enhancing the number of peripheral blood stem cells obtained from a donor which comprises administering to such donor a therapeutically effective amount of a compound of Claim 1 prior to leukapheresis.
22. A method of Claim 21 further comprising co-administering a therapeutically effective amount of a hematopoietic-cell mobilizing agent selected from the group consisting of: a colony stimulating factor, cytokine, chemokine, interleukin or cytokine receptor agonist, adhesion molecule antagonists or antibodies.
23. The method of Claim 22 wherein the mobilizing agent is selected from the group consisting of: G-CSF, GM-CSF, TPO, EPO, Gro-beta, IL-8, cytoxan, VLA-4 inhibitors, SCF, FLT3 ligand or a biologically active derivative of G-CSF, GM-CSF, TPO, EPO, Gro-beta or IL-8.
24. An in vitro or ex vivo method for enhancing stimulation of megakaryocyte maturation and/or platelet production which comprises adding an effective amount of a compound of Claim 1 to the culture medium of cells that express the TPO receptor.
25. An in vitro or ex vivo method for enhancing stimulation of megakaryocyte maturation and/or platelet production which comprises adding an effective amount of a compound of Claim 1 to the culture medium of stem cells, bone marrow cells, cord-blood cells or peripheral blood cells.
26. A method of claim 25, wherein the megakaryocytes or platelets are returned to the mammal following chemotherapy or radiation therapy.
27. An in vitro or ex vivo method for enhancing the survival and/or proliferation of stem cells, bone marrow cells, cord-blood cells, peripheral blood cells or other types of cells expressing the TPO receptor in culture which comprises culturing said cell in a medium containing an effective amount of a compound of Claim 1.



28. A method of claim 27 further comprising co-administration of a therapeutically effective amount of a colony stimulating factor, cytokine, chemokine, interleukin or cytokine receptor agonist.
29. A method of claim 27 wherein the stem cells are returned to the mammal following chemotherapy or radiation therapy.
30. A method of treating of neutropenia in a mammal, including a human, in need thereof which comprises administering to such mammal a therapeutically effective amount of a compound of Formula (I), as described in claim 1.
31. An in vitro or ex vivo method for enhancing stimulation of neutrophil production which comprises adding an effective amount of a compound of Claim 1 to the culture medium of stem cells, bone marrow cells, cord-blood cells, peripheral blood cells or other types of cells expressing the TPO receptor.
32. A method of claim 31, wherein the neutrophils are returned to the mammal following chemotherapy or radiation therapy.
33. A method of claim 4 wherein said thrombocytopenia is due to myelosuppression caused by chemotherapy or radiation therapy.
34. A method of claim 4 wherein said thrombocytopenia is due to an organ transplant.
35. A method of claim 4 wherein said thrombocytopenia is due to bone marrow, stem cell, or liver transplant.
36. A method of claim 4 wherein said thrombocytopenia is due to idiopathic thrombocytopenia purpura (ITP).
37. A method of claim 4 wherein said thrombocytopenia is due to myelodysplastic syndromes (MDS), aplastic anemia or leukemia.
38. A method of claim 4 wherein said thrombocytopenia is due to viral, fungal, microbial or parasitic infection.

39. A method of claim 4 wherein said thrombocytopenia is due to liver dysfunction.
40. A method of claim 4 wherein said thrombocytopenia is due to surgical procedures.
41. A method of claim 4 wherein said thrombocytopenia is due to treatment with antiviral or antibiotic agents.
42. Use of a compound of Claim 1 as an immunological adjuvant.
43. A use according to claim 41 where the immunological adjuvant is administered with a vaccine and/or immunomodulator.
44. An intermediate used in the preparation of compounds of Claim 1 selected from:

*N*-[2-Nitro-4-(4-oxo-2-thioxo-thiazolidin-5-ylidenemethyl)-phenyl]-acetamide;  
5-(4-Amino-3-nitro-benzylidene)-2-thioxo-thiazolidin-4-one;  
5-(3,4-Diamino-benzylidene)-2-thioxo-thiazolidin-4-one;  
(*E*)-3-(4-Acetylamino-3-nitro-phenyl)-2-methyl-acrylic acid ethyl ester;  
(*E*)-3-(4-Amino-3-nitro-phenyl)-2-methyl-acrylic acid ethyl ester;  
(*E*)-3-(3,4-Diamino-phenyl)-2-methyl-acrylic acid ethyl ester;  
6-(3,4-Dimethyl-phenyl)-pyridine-2-carbaldehyde;  
6-(3,4-Dichloro-phenyl)-pyridine-2-carbaldehyde;  
6-(4-*tert*-Butyl-phenyl)-pyridine-2-carbaldehyde;  
4'-*tert*-Butyl-2-methoxy-biphenyl-3-carbaldehyde; and  
4'-*tert*-Butyl-2-hydroxy-biphenyl-3-carbaldehyde.